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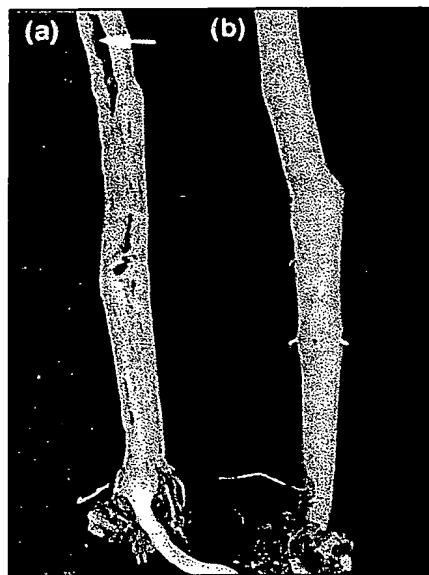


FIG. 1

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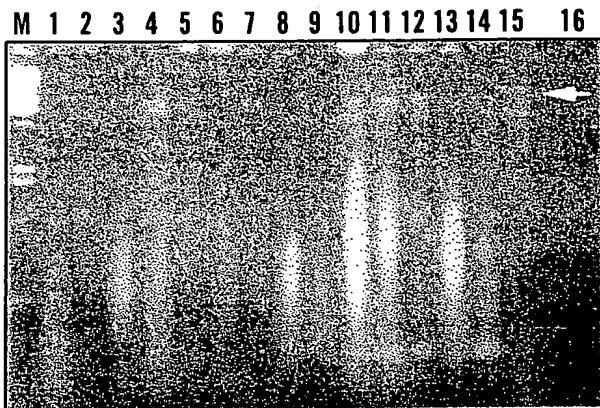


FIG. 2A

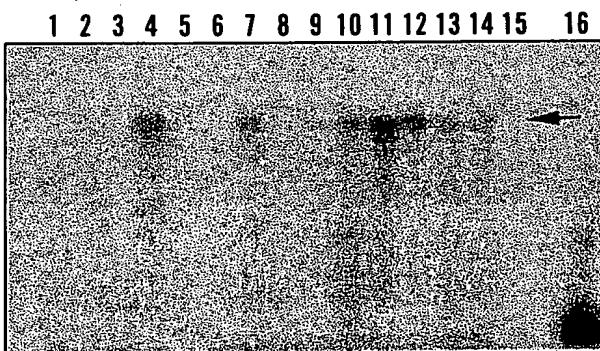


FIG. 2B

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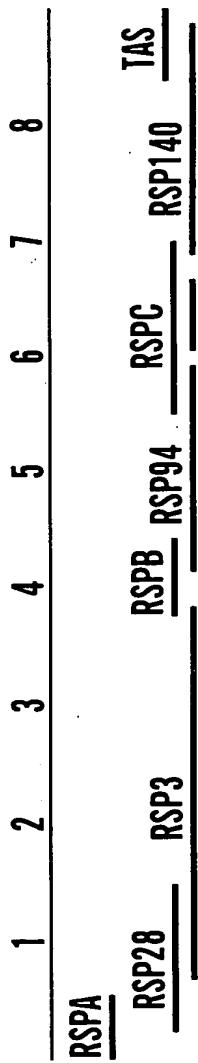


FIG. 3A

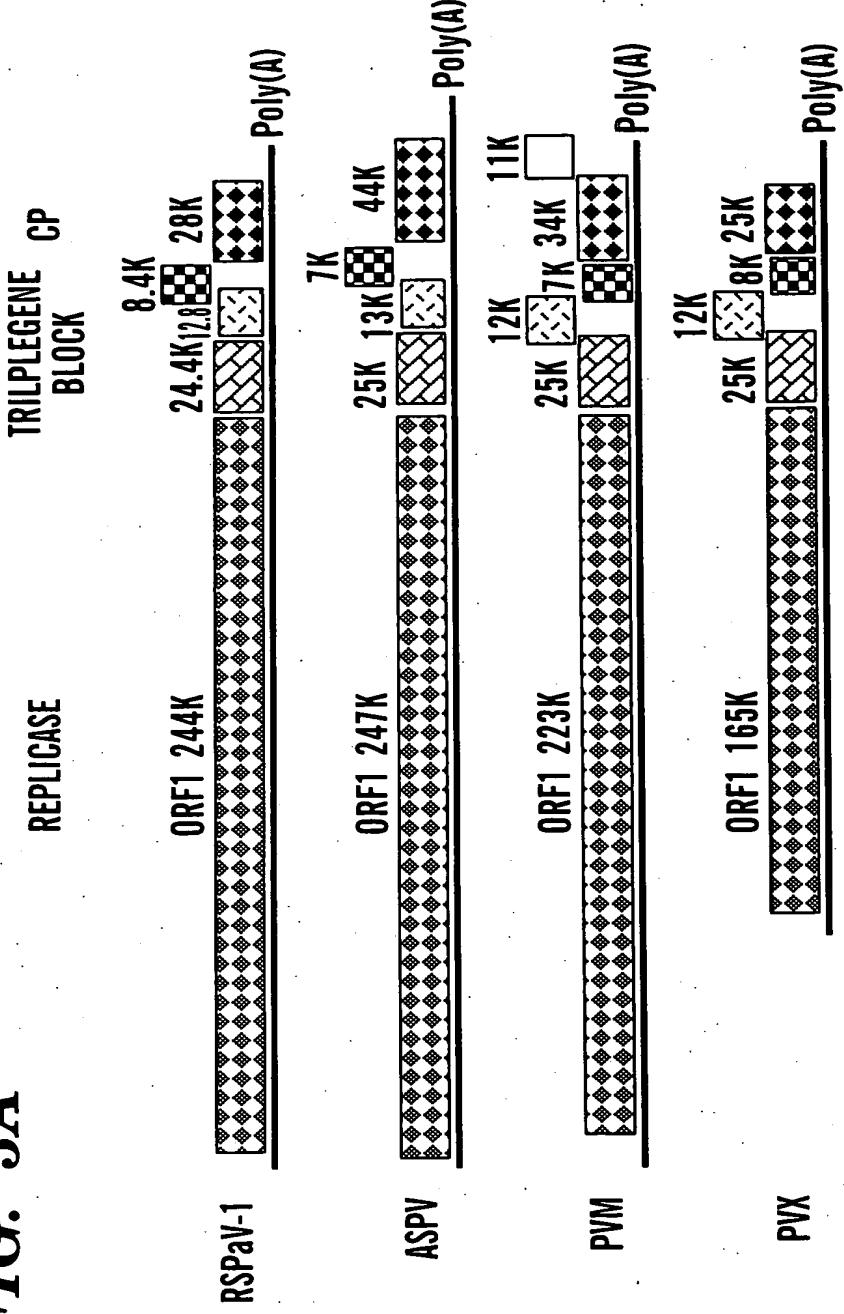


FIG. 3B

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MA* # R. * E* * F* . * Q* * A* * E# * . * L* . * K* * L. . K* YLSP#S. **
 ((1) MAVT YRTPMEDI VNCFE. PATQAVI ANSAATLYKNFEE NH CQYFNY. LSPLAKRKLSMAGI YLSPYSAVV
 ((1) MALLSRTAEEFVI ASFT. SEEQSRI STQAVLALTNEVKHDLFNYALPELAKMRLFNSGI YLSPHSYRP
 ((1) MALS YRPAVEEVLAKFT. SDEQSRVSA TALKALVDLESQHNLFSFALPDRSKERLI SSQGI YLSPYSFRP

HSHPVCKTLEN. I L#N#LPSV. . # SFY# V#IK. K#* LK* . #*L. V. . NR. # S. D. . RY* . F#
 HSHPVCKTLENYILYVLPSV. NSSSFYFVGIKERKLQLLKSKCKNLDSVQVVNRVTSADRMRYTNDFV
 HSHPVCKTLENNILFNI LPSV. DNSFYLVSI KKNKVDFLKRRHPDLQMVETINRYISSIDKTRYGGFFH
 HSHPVCKTLENHILYNVLPSV. NSSSFYFVGIKDFKLQFLKRRNKDLSSLVALINRFVTSDVSRYGSEFV

* S. . * . * # C. # - D. . L# . L# * . * # # F. HDE. HYW# . . LI . FLD# . * P. . # L# *
 PYGS. . . YEHECLVHKGVGLDNEALRGLVGPLRRHKA KNLFFHDELHYWS SKVLI D. FLDVMMRPDKLLGT
 VSPSKI SAKFKCDRRTGF. DDASLIDLIPGCMEGARKRFFFHDELHYWTKEALIT. FLDHVKP EVMLAS
 ISSSDKSSQVVS. . RKKGIG. DSNTLRRLVPRVI STGARNFLHDEI HYWSISDLIN. FLDVAKPSMLLAT

V. PPE. L. G. ESLNPW. Y. Y. I. G. L. F. PDG. . E. Y. QPL. . YLL. ARS. . LPDG. . Y. VD. .
 VVYPPELLFKPTRSLNEWCYTYDI VGDTLMF FP DGVQSEGYQQLKGCGYLLGARS LKLPDGTVYMYDVLC
 I VFPPPEILAGAKESLNPWCYTFRIVGKDLVFVFPDGEQSEAYI QPVAGSYLLRTGKI TTPSGDI FQLDLLK
 AVI PPEVLVGSPESLNPWAYQYKI NGNQLLFAPDGNWNEMYSQPLSCRYLLKARSVVLPGDSRSYVDI IH

S# F*HHL. S. T. . G. . . * R. F. * F. A. . . * L# * . * # P# . . . # # . KI Y. YLRTLKKPD. .
 SKFPHHLISIT. KGEAAAPTHRAFGPFEAVASEALKATLSPDYPCAFFPVSYEVVNKI YRYLRTLKKPDQ
 SSFSHHHLISIT. KGEAI GQKMRFFNGFEAVAMKGLNP. LRRKVESCLPI SKNTILKI YRYLRTLKKPDQ
 SKFSHHLLSFTP MGNNLTSNMRCFSGFDAIGI KDLEP. LSRGMHSCFPVHHDVVTKI YLYLRTLKKPDKE

Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I
 Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I
 Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I

SA. AKL. Q. # . P. G#EI * F. E. F* . L# # ✓
 SAI AKLSQII AEPSGREIDFVECFARLVI (371) ✓
 SAMAKLSQLVCKDPNGYEIKFEEFSKLCL (373) ✓
 SAEAKLRQII EKPTGREIKFI EDFSSLVI (372) ✓

FIG. 4A

Coresets	* GTFG. GKS. L. - K. * . GK. . * FVSPRR#LA. * #. * # K#G. * V. T* E.
PVM Rep-II	(1163) VGTFGSGKSTLF. KNLLKYGAGKSLDFVSPRRALAEDEFKRTVGGMNERGGRAKAGQE. . . NWRVTTLET
ASPV Rep-II	(1372) LGTFGCGKSSLF. KKFIEKSPGKAI TFVSPRRSLAESI NHDLGLARVGGK. KTGKSKDLMNVRVKTFFEL
RSPaV-1 Rep-II	(1384) VLGTFGAGKSFY. KSFMKRSEKGKFTFVSPRRALANSI KNDLEMDDSCKVAKAGRSKKEGWD. VVTFEV

F# . # . # . # . G# . V# . DE . QL * PPGY * DL . * . * . # * GDP * QS . YD# . # DR . * * * * *
 FLARVEFLTEGQVVI LDEMQLYPPGYFDLVVSMLKVDVRLFLVGDPQAQSODYDSEKDRLVLGAMEENMSVV
 FIHLHDSIKEGHTVVIDEIQLFPFGYIDLII LGLKPNVNII LAGDPCQSDYDCSSDRHI FAGSES DI MRI
 FLRKVAGLKAGHCVI FDEVQLFPFGYIDLCLLI IRSDAFI SLAGDPCQSYDOKDRAILGAEOSDI LRL
 Consensus
 PYM Rep-II
 ASPV Rep-II
 RSPaV-1 Rep-II

Consensus	* V # T # G E S T G L * F . G . I * # . . . S . T . * R R W . T A L * R F * * # . . . # N . . . G *
PVM Rep-II	V V C A H L P E A - K V L T F G E S T G L T F M H G T I Y I S A V S E R T N E R R W I T A L R R F R F N L C F V N C S G M D Y Q Q L A G R Y
ASPV Rep-II	I V A A H L G L K M K O I T Y G E S T G L N F Q K G A I L V T Y E S A L T S D R R W W T A L S R F S H D I H F I N G M G V T W D N A I T H F
RSRPAV-I Rep-II	I V Q S Y F G M K Q L T L F G E S T G L N F K N G G I L I S H D S F H T D D R R W L T A L S R F S H N L D V N I T G L R V E S F L S H F

Consensus	G***. F#. *	# G#. EGVRE#KL.
PVM Rep-II	KGRVRSKFLCKTAI PDDLN SMLPGQALFKSEYPRLI	GDP WL K. M. * L Q. . * E. * # .
ASPV Rep-II	GKDEGVREEKLAGDPWLKTMI NL YQAPEVEI AEE	
RSSPV-I Rep-II	VGKPLHKKFTKRA CNDDI I DLLPGRP ELIE GFQSQVGADEGVREAKLVGDPWLKT KJ FL GQNPDFE I EA	
	AGKPLYHFLTAKSGEN V RDLLPGEPNFFSGFNV S1 GKN EG VREEKLCGDPWLKVMLFLGQD EDCVEEM	

Cocetus
 PVM Rep-II
 ASPV Rep-II
 RSSPav-I Rep-II
 EWF#TH#P...LE#. RA. WV. K...#E#RE#R. G...QF. H...G. #L. NA. ER#E.
 PEVVMQEWFRTHLPRDELESVRAQWVWHKLAKEYREVVRMGMVSEQFTHDHTKQLGAKQLTNAAERFET
 DEVEAAEDWFKTHIPIMSLEAVRAQWVWHKLISREDREFRIGDITTEQFTDDHSKNRGQ.ELTNAAERYEA
 ESECSEEWFKTHIPLSNLESTRARWWGKMALKEYREVRCGYEMTQQFFDEHRRGTGE.QLSNACERFES

FIG. 4B

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I YPRH* * D . TFL MAV. KRL. FS. P . E . * L * A * # GK * LL * . FL . . PL# . * H# . * EA* . . EA* . . F
 I YPRHRASDTVTFLMAVKKRLSFSNPGKEKGNLFHAAASYGKALLSEFLKRVPLKPNNVRFMEEAL. WNF
 I YPRHKGTDTATFLMAVKKRLSFSSPAAEHAKLRRAKPFGKFLLDTFLKRVPLNSSHDEKMMQEAV. HAF
 I YPRHKGNDSITFLMAVRKRLKFSKPQVEAAKLRRAKPYGKFLLDSFLSKIPLKASHNSI MFHEAV. QEF

Consensus
 PVM Rep-II
 ASPV Rep-II
 RSPaV-I Rep-II

E . KK . SKS# ATI ENH. GRSC# DW . D# A * I F * KSQ . CTKFDNR . R# AKA* Q* * CFQH# VL . RFAPYMR
 EEKKL SKSAATI ENHS GRSCRDWPTDVAQI FSKSQQLCTKF DNR . FVAKAAQSI VCFQHAVL CRFAP YMR
 EEKKL SKSMATI ENHS GRSCEDWPVDKALI FMKS QLCTKF DNR . FRSAKAGQTTLACFQHSVL CRFAP YMR
 EA KASKSAAATI ENHAGRS CRDWLLDVALI FMKS QHCTKF DNR . LRVAKAGQTTLACFQHAVL VRFAP YMR

Consensus
 PVM Rep-II
 ASPV Rep-II
 RSPaV-I Rep-II

YI E . K . . . L . . N . YI HSGK# # * # L . . WV . * . F . * # CTE SDYEAFDASQD* FI * AFEL . . MK * L * LP .
 YI EMKVHEVLPKNYYI HSGKGLEELDAWKKGK . FDRI CTESDYEAFDASQDEFI MAFELELMKYLRLPS
 YI ESKVTEVLPKKNLYI HSGKNI DDLAAWTTSK . FNGVCTESDYEAFDASQDHFI LAFELEVMKFLGLPS
 YI EKKLMQALKPNFYI HSGKGLDELNEWVTRTG . FTGI CTE SDYEAFDASQDHFI LAFELQI MKFLGLPE

Consensus
 PVM Rep-II
 ASPV Rep-II
 RSPaV-I Rep-II

DLI . DY . FI K . * LGSKLG* F . I MRF * GEASTFLENT * ANMLFTF * RY . * G . E . I . FAGDDMCA* # RL .
 DLI EDYKFI KTSLGSKLGNAI MRFSGEASTFLNTLANMLFTFMRYNI RGDEFI CFAGDDMCASRRLQP
 DLI ADYTFIKTHLGSKLGSFAI MRFTEASTFLNTMANMLFTFLRYDLNGREAI CFAGDDMCANSRLKV
 DLI LDYEFI KI HLGSKLGSFSI MRFTEASTFLNTMANMLFTFLRYELTGSESI AFAGDDMCANRRLRL

Consensus
 PVM Rep-II
 ASPV Rep-II
 RSPaV-I Rep-II

FL . I . LKAKVQF# PTFCGW . L . . G# * KKP# L . . ER . # I A* E# . NL * NCI DNYAI E
 TKXFAHFLDKLKLAKVQFVQFN . . KPTFCGWHLCPDGI YKKPQLVLERMCI AKEMNNLSNCIDNYAI E
 TNRFSNFLDKI KLAKVQFTAT PTFCGWGLCEHGVFKKPDLVLERLQI ARETRNLENCI DNYAI E
 KTEHEGFLNMI CLKAKVQFVSN PTFCGWCLFKEGI FKKPQLI WERICI AREMGNLENCI DNYAI E

Consensus
 PVM Rep-II
 ASPV Rep-II
 RSPaV-I Rep-II

V* # AY . # GE . # . . . # * # EV . A * YNCVR* . V# # # H
 VAYAYKLGEEKAVNRMDDEEVAAFYNCVRIIVRNKH
 VSCAYKMGENLNLYLTPQEVDAHYNCVRFIVQHNN
 VSAYAYRLGELAIEMMTEEVEAHYNCVRFIVRNKH

Consensus
 PVM Rep-II
 ASPV Rep-II
 RSPaV-I Rep-II

FIG. 4C

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Consensus
PVM 25K MDVI VDLL YKKFERLSNKL. VCPI VVHCVPAGKSSLI RELLELD SRFCAYTAGVEDQPRLSGNWIRKW
ASPV 25K METVLLNEFGERTVEPL. SDPI VVHA VPGSGKTTLI KQALI RNNNI EAVTGFVPEKANI HGTYIKKA
RSPaV-124.4K MNNLVKALSAFEVGVFSVL. KEPVVIIHS VPGSCKSSLI RELIS EDENFI AFTAGPDSPNL TGRYIKPY

Majority
PVM 25K #. G. . . . G# . * LDEY* LF* DP* Q. N. # . . . A* F* . # . . . RFG. . T# . L. . . G. . # .
ASPV 25K S. GQQPEGKFVVLDEYTLI. TEVPPVFA LF GDDPI QSNTSAVQRA DFCVS VSRRFGSATCGLLREL GWNVR
RSPaV-124.4K RQQQRGRGNYSLDEYLSG. EYSTGFNCFLFSDPYQ. NHGDCLRAHF1 GRCSSHRFGRQT VQIL RD LGYNYIA
SPGCCAVPGKVNILDEYLSV. QDFSGFDVLFSDPYQ. NI SI PKEAHF1 KSKTKCRFGVNTCKYLSSFGFKVS

Majority
PVM 25K ... S. . . D. V. # . . * # . . * G. * . * # . . * # . . * H. . E. * . * # . * G. TF. # VT. . . # # .
ASPV 25K ... SEKADLVQVSDI YTKD. PLGKVVFSSEEVGCLLRSHGVEALSLQEITGOTFEVVTFVTSENSPVINRA
RSPaV-124.4K ... SSKE DI VEKKNI FQLIEPEGVIICLEGKVEDFLKWHSEYKFP CQVRGATFDIVTFIHEKPLEELVGP
... SDG LDKVIVGSPFTLDV. EGVLICFGKEAVDLAVAHNSEFKLPCEVRGSTFNVVTLLKSRDPTPEDRH

Majority
PVM 25K #. * . TRHR. * * . . .
ASPV 25K AA. YQCMTTRHRRRLC. TSVS
RSPaV-124.4K DL. FVALTRHRSKL. VLVSN
WF. YI AATRHRREKL. IIMQ

FIG. 5A

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M P * . * . . P . . K . . * . * G . . . # V . . . # V . . . # G . . . # V . . . L . . S . L P . . G D * . * H . . P H G G . Y # D G T K # . * Y * . * P . . * M P * . . . L T P P P D F T K V Y L S A A L G V S L A L V V W L L I R S T L P V V G D R D H N L P H G G W Y R D G T K S V F Y N S P . . . G M P F A Q . . . P P D Y S K S V F P I A V G I A V A V V L F T L T R S T L P Q V G D N I H N L P H G G N Y Q D G T K R I S Y C G P R D S M P F Q Q . . . P A N W A K T I T P L T V G L G I G L V L H F L R K S N L P Y S G D N I H Q F P H G G R Y R D G T K S I T Y C G P K Q S

Majority	PWM 12K	RLNSIEARKAPLLGQPWAI VVLLVL...	LI WASHKLCRPNCR. ACA... GS... HT
	ASPV 12K	FPSSSLIS. SGTPMI GI I FLIFAI YYSEKWSRSSGSRCCCVPGAPACTATVHE	FPSSSGIFGQSENFPVPLMLVI GLI AFI HVLSVWN. SGLGRNNCNCHPNPCSCRQQ
	RSPaV-1128K		

FIG. 5B

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Majority	CGSFRS	VSAVEE DYNAMIC
PVM 7K	ASPV 8K	RSPV 1.84K

FIG. 5C

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Consensus * . TLR# . C . YA* . *WN . L . * . PPA*W# . * #F #A*FD*F . *V # * *P . . G . . R . PT . *E
PVM CP (188) DAETLRRVCRLYAPVTWNHMLTHNAPPAEWAAMGFQYEDRFAPFDCCFDYVENTAAVQPLEGLIRRPTPRE
ASPV CP (301) EGCTTLRQYCAFYAKHVVNLMLQTQSPPANWWGKEFKFETRYAAFDDFFGVESTASLEPADGLIRLPTQAE
RSPAv.1CP (142) EVTTLRRFCMYYAKI VVNIIHLETGIP PANWAKKGFNENEKFAAFDFFLGVTDESALEPKGGIKRAPTKAE

Majority . VA* . * . * . R . # . * * . # # . * E . GG . . G
PVM CP KVAHNTHKDI AL . RGANRNQVFSSLNAEVTCGMNGPELTDRDVKSNRK
ASPV CP RVANATSKEI QMYRI RSMEGTQAVNFGEVTGGKIGP . . KPVLSI . RK
RSPAv.1CP MVANI ASFEVQVLRQAMAEGKRSSNLGEISGGTAGALINNPFSNVTHE

FIG. 5D

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Consensus ASPV 3'UTR RSPAV-1 3'UTR	... G. T. A. . A. A. T C. . C. . C A. T T C. . . . T. C A. T A. T T C. . . . T T T. . . . A. A. G. T G. . . . A. C C T . . .	TAGTTAATTAAATTCTCCTGCA. TTCAAT.. TTCAGTACTTATGCTTTAGTAAAGT GATCCCACCTAAC .. GGATGACGAAGTCAGGCCAACATTCCCAATAATTCCCCGATT.. CAAGGGCTGGGTAAAGCCTGTT
Consensus ASPV 3'UTR RSPAV-1 3'UTR	CG. . GG. . . . C. . T. GT. T. TT. CATGCT. . A. C. TATT T. TGT.	CG. . GGGCGGCATGT. GTGTGTTCTTCATGCTTAGCTTATTT. TGT.

Consensus	TTT.....	TAG. TTT... .TC
ASPV 3'UTR	TTTAAC.....	TAGATTT... .TC
RSPAV.1 3'UTR	AAGAAGATTGGTGTGTTTATAGTTTCAATT		

FIG. 6A

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Consensus	PVM 3'UTR	RSPaV-1 3'UTR
	GGATGACGAAGTCAGCGACAAATTCCGAGTCCAATAATTCCCCGATTCAAGGCTGGTTAAGCCTGTTCGCT	
Consensus	PVM 3'UTR	RSPaV-1 3'UTR
	CCAT...TAATCCTATTATAATAA. GTGTC. .A.AAA. A	
	CCAT...TAATCCTATTATAATAACGTGTGCTACTATAATA	
	GGAATACCGTACTAATAGTATTCCTTCCATGCTAAATCCTATTATAAGCTGTGAAAGTAAAAGA	

Consensus	PVM 3'UTR	RSPaV-1 3'UTR
A. A. TTGGT. T. T. . TAT. . TTTT.	AAACTGGTTAACATAT..TTTAGCCA	
	AGATTGGTGTGTTTATAGTTTCATTC	

FIG. 6B

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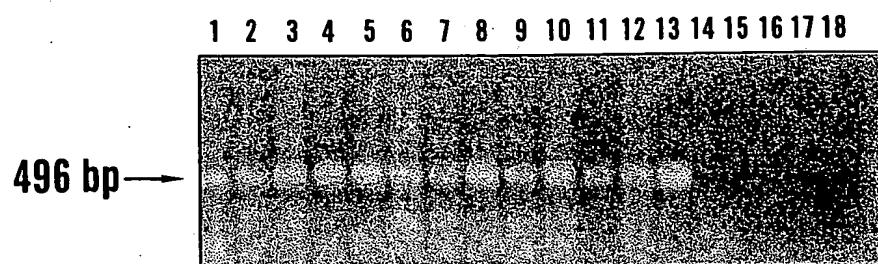


FIG. 7A

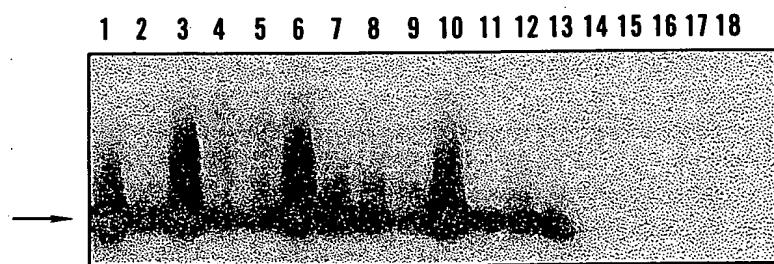


FIG. 7B

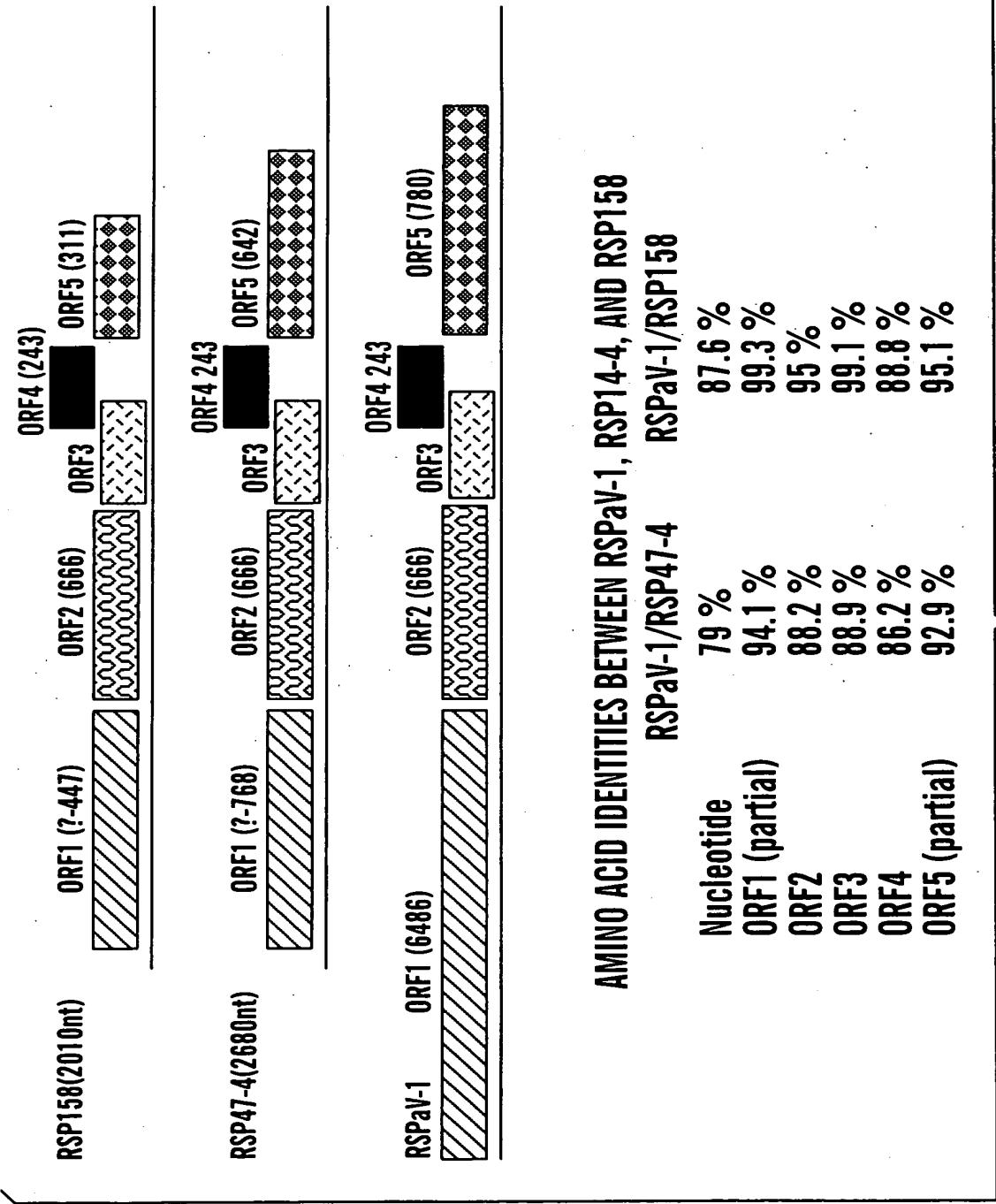


FIG. 8

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FIG. 9

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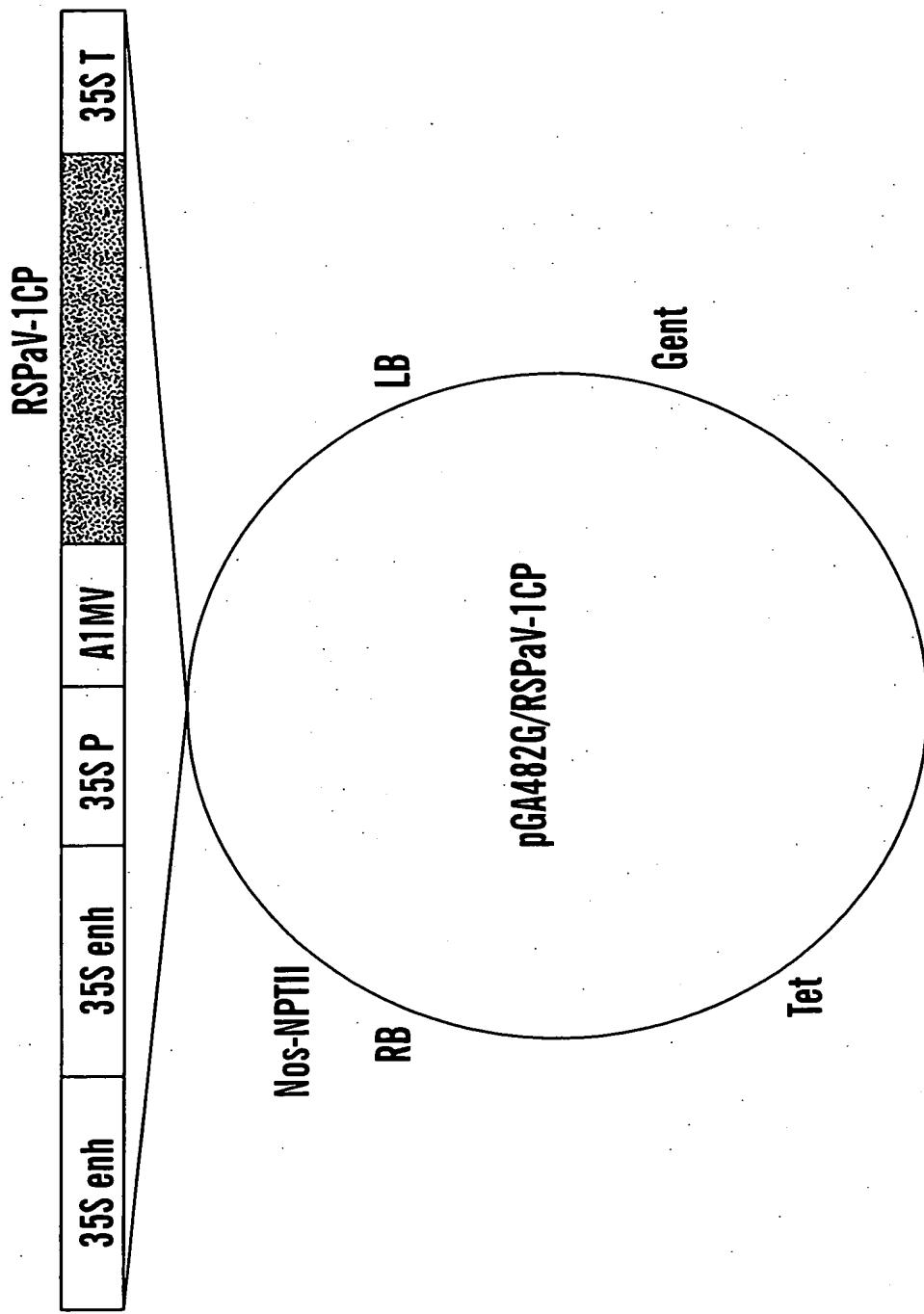


FIG. 10